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(54) Picking on fused 3D volume rendered images and updating corresponding views according to a picking action

(57) A method of weighted point picking on a pre-compositing fusion volume rendered image of multiple registered volumes comprising the steps of selecting a rendered pixel, finding the projection ray through the rendered pixel, finding the intersection segment of the projection ray with the fused volume, traversing the intersection segment according to a traversing intersection point and for each traversing intersection point: looking-up volume samples for each of the volumes at the traversing intersection point, applying optional transfer

function and shading on the volume samples, performing a weighted fusion operation between the volume samples, compositing the fusion result with the previous fusion results pertaining to previous traversing intersection points, evaluating a result condition at each traversing intersection point leading to a final compositing result, outputting the coordinates of the traversing intersection point where the result condition was reached as the picked point.

EP 1 923 840 A3



EUROPEAN SEARCH REPORT

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EP 07 11 7214

DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (IPC)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
A	<p>GOBBETTI E ET AL: "Interactive virtual angiography" VISUALIZATION '98. PROCEEDINGS RESEARCH TRIANGLE PARK, NC, USA 18-23 OCT. 1998, PISCATAWAY, NJ, USA, IEEE, US, 18 October 1998 (1998-10-18), pages 435-438,561, XP010321024 ISBN: 0-8186-9176-X * abstract * * page 436, paragraph 2.2 - page 437 * -----</p>	1-14	INV. G06T15/00
A,D	<p>FERRE M ET AL: "A framework for fusion methods and rendering techniques of multimodal volume data" COMPUTER ANIMATION AND VIRTUAL WORLDS, WILEY, GB, vol. 15, 1 January 2004 (2004-01-01), pages 63-77, XP007905457 ISSN: 1546-4261 * abstract * * page 63 * * section "Multimodal Rendering Pipeline", pages 66-71 * * figures 1,2,7,8 * ----- -----</p>	1-14	<p>TECHNICAL FIELDS SEARCHED (IPC)</p> <p>G06T</p>
6 The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
Berlin		7 January 2010	Vollmann, Karl
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X: particularly relevant if taken alone Y: particularly relevant if combined with another document of the same category A: technological background O: non-written disclosure P: intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</p>			



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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim
A,D	<p>MANAGULI R ET AL: "Multi-volume rendering for three-dimensional power doppler imaging" ULTRASONICS SYMPOSIUM, 2005 IEEE ROTTERDAM, THE NETHERLANDS 18-21 SEPT. 2005, PISCATAWAY, NJ, USA, IEEE, vol. 4, 18 September 2005 (2005-09-18), pages 2046-2049, XP010899271 ISBN: 978-0-7803-9382-0</p> <p>* abstract *</p> <p>* figure 1 *</p> <p>* section "III Multi-Volume Rendering Algorithms" page 2047 and 2048 *</p> <p>-----</p> <p>GASPARAKIS C ED - EBERT D ET AL: "Multi-resolution multi-field ray tracing: a mathematical overview" VISUALIZATION '99. PROCEEDINGS SAN FRANCISCO, CA, USA 24-29 OCT. 1999, PISCATAWAY, NJ, USA, IEEE, US, 24 October 1999 (1999-10-24), pages 199-206, XP010364969 ISBN: 0-7803-5897-X</p> <p>* abstract *</p> <p>* page 201, right-hand column *</p> <p>-----</p>	1-14
A		1-14
		TECHNICAL FIELDS SEARCHED (IPC)
The present search report has been drawn up for all claims		
6	Place of search Berlin	Date of completion of the search 7 January 2010 Examiner Vollmann, Karl
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